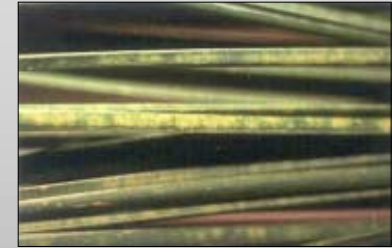


Ozone Biomonitoring on the West Coast



Forest Health Monitoring Forest Inventory & Analysis

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Ozone injury on ponderosa pine

Evaluating red elderberry

Objective

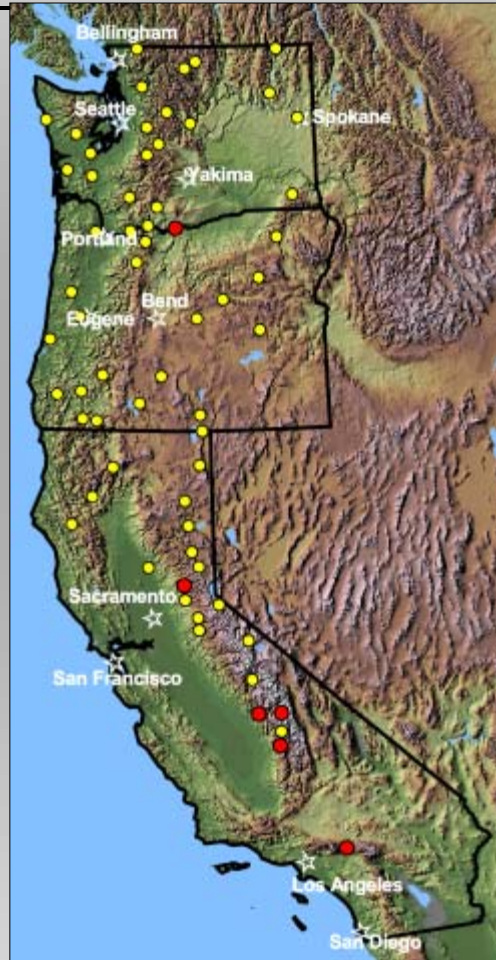
The FHM ozone biomonitoring program uses ozone sensitive plants to assess air quality and potential impacts to forested ecosystems

Methods

- ❑ Network of monitoring sites across the US
- ❑ Ozone sensitive species evaluated
- ❑ Annual measurements

West Coast Bioindicator Species

Ponderosa pine	Jeffrey pine
Quaking aspen	Scouler's willow
CA black oak	Red alder
Ninebark	Pacific ninebark
Red & blue elderberry	Skunkbush
W. Wormwood	Mugwort
Thinleaf huckleberry	Snowberry



West Coast biomonitoring sites in 2000.
Red circles indicate positive ozone injury

2000 Results

- ❑ Ozone injury in 6 locations:
 - 5 in California
 - 1 in Washington
- ❑ Species injured:
 - Ponderosa pine
 - Jeffrey pine
 - Mugwort
 - Blue elderberry

2002

- ❑ New grid will be established, with 3 strata of sampling intensity based on ambient ozone levels
- ❑ Co-location of selected ambient and biomonitoring sites in CA



Artificially-induced ozone injury on blue elderberry (left) and red alder (right)

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